PATENT
Customer No. 22,852
Attorney Docket No. 05552.1464-00

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re U.S. Patent No.: 7,485,312)
)
Inventors: Udo KRUPKA)
)
Issue Date: February 3, 2009)
)
For: SURFACE PROTEIN (HBSAG) VARIANT OF THE HEPATITIS B VIRUS)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

REQUEST FOR CERTIFICATE OF CORRECTION

Pursuant to 35 U.S.C. § 255, and 37 C.F.R. § 1.323, this is a request for a Certificate of Correction in the above-identified patent. The mistake identified in the appended Form 1050 is of a clerical or typographical nature, or of minor character, and resulted from an error made in good faith by patentee.

In particular, the national stage application that granted as U.S. Patent No. 7,485,312 B2 claimed the benefit of two applications: German application DE 103 28 139 and International Application No. PCT/EP2004/006516. Both priority documents were incorporated by reference in their entireties into the application that granted as this patent. However, both priority documents are in German. When an English translation of German PCT/EP2004/006516 was submitted in the application that granted as this patent, it included a wrong translation of German Figure 6.

The patentee requests correction of the inadvertent submission of the wrong translation of German Figure 6, by deleting drawing sheet 6 of 6 and replacing it with substitute drawing sheet 6, as attached in Form 1050. This was a good faith error, and no new matter is added with this correction because the information contained in substitute drawing sheet 6 is the same as in the Figure 6 of both German priority documents (incorporated by reference upon filing of the application that granted as this patent). In addition, this correction is of minor character because English Figure 6 is merely the alignment of the amino acid sequences already disclosed in English Figure 2 (for the ayw2 sequence) and English Figure 5 (for the HDB 11 sequence). All of the information in Figure 6 is thus presented earlier in Figures 2 and 5.

For the convenience of the Office, the patentee submits copies of the following filing papers for the application that granted as this patent:

a. The Preliminary Amendment of December 20, 2005, incorporating both German priority documents by reference, in their entireties;
b. German Figure 6 from German Priority Document DE 103 28 139; and
c. German Figure 6 from PCT/EP2004/006516.

A check in the amount of $100 (the fee set forth in 37 C.F.R. § 1.20(a)) is attached. Should a check not be appended or should any additional fees be needed, authorization is hereby given to charge any fees due in connection with the filing of this request to Deposit Account No. 06-0916.

The complete Certificate of Correction involves two (2) pages. Issuance of the Certificate of Correction containing the correction is earnestly requested.

Please charge any required fees not included herewith to Deposit Account No. 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER, L.L.P.

Dated: October 30, 2009

By: Rebecca M. McNeill

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PATENT
Customer No. 22,852
Attorney Docket No. 05552.1464-00

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	
Udo KRUPKA	Group Art Unit: To be assigned
Application No.: To be assigned	Examiner: To be assigned
Filed: Herewith	
For: NOVEL SURFACE PROTEIN (HBsAg) VARIANT OF THE HEPATITIS B VIRUS	Confirmation No.: To be assigned

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

PRELIMINARY AMENDMENT

Prior to the examination of the above application, please amend this application as follows:

Amendments to the Specification are included in this paper.

Amendments to the Claims are reflected in the listing of claims in this paper.

Remarks/Arguments follow the amendment sections of this paper.

AMENDMENTS TO THE SPECIFICATION:

Please amend the specification as follows:

Please insert the following prior to the first line of text on page 1 of the application:

This application is the United States national phase of International Application No.PCT/EP2004/006516, filed on December 29, 2004, which was published as WO 2004/113370 and which claims priority to German Application No. 103 28 139.8, filed on June 20, 2003, each of which are incorporated by reference herein.

Please replace the paragraph at page 6, lines 25-35, with the following paragraph:

Due to the central role which the a determinant plays in active immunization (vaccination with HBV antigen), passive immunization (protection by means of HBV-specific immunoglobulins), detection of the success of a vaccination or of an HBV infection which has taken place (both by means of determining HBsAg-specific antibodies, i.e. anti-HBs) and, finally, safety in the field of blood donation (HBsAg determination and PCR), it is understandable that the appearance of mutants, and also new variants, is followed with great attention in specialist circles.

Please replace the paragraph at page 15, lines 13-18, with the following paragraph:

The invention also relates to an oligonucleotide or polynucleotide which comprises a nucleotide sequence which has at least 95%, at least 96%, at least 97%, at least 98%, or at least 99%, identity with SEQ ID NO:1. The nucleotide sequence of SEQ ID NO:1 encodes the amino acid sequence of SEQ ID NO:12.

Please replace the paragraph at page 16, line 21, to page 17, line 2, with the following:

The oligonucleotide or polynucleotide according to the invention can also comprise a nucleotide sequence which is a constituent sequence of SEQ ID NO:1 containing at least 8 consecutive nucleotides of SEQ ID NO:1, with the constituent sequence including at least one of the positions 161, 183, 213, 214, 218, 221, 224, 227, 233, 234, 239, 253, 261, 281, 294, 306, 312, 387, 405 and 408 of SEQ ID NO:1. The constituent sequence preferably comprises at least 9, more preferably at least 10, most preferably at least 12, consecutive nucleotides of the nucleotide sequence shown in SEQ ID NO:1. In other embodiments, the constituent sequence comprises at least 15, at least 18, at least 20, at least 25, at least 30, at least 35, ~~at least 30, at least 35,~~ at least 40, at least 45, at least 50, at least 60, at least 70, at least 80, at least 90, at least 100, at least 120, at least 150, at least 175, at least 200, at least 258 or at least 300 consecutive nucleotides of the nucleotide sequence shown in SEQ ID NO:1.

Please replace the paragraph at page 30, lines 1-10, with the following:

(2) An oligonucleotide or polynucleotide according to (1) which is in each case at least 65% or 66% or 67% or 68% or 69% or 70% or 71% or 72% or 73% or 74% or 75% or 76% or 77% or 78% or 79% or 80% or 81% or 82% or 83% or 84% or 85% or 86% or 87% or 88% or 89% or 90% or 91% or 92% or 93% or 94% or 95% or 96% ~~or 99%~~ or 97% or 98% or 99% identical with one of the sequences selected from the group consisting of SEQ ID NO:1 to SEQ ID NO:11.

Please replace the paragraph at page 33, lines 3-11, with the following:

(12) An oligopeptide or polypeptide according to (10) or (11) which is in each case at least 65% or 66% or 67% or 68% or 69% or 70% or 71% or 72% or 73% or 74% or 75% or 76% or 77% or 78% or 79% or 80% or 81% or 82% or 83% or 84% or 85% or 86% or 87% or 88% or 89% or 90% or 91% or 92% or 93% or 94% or 95% or 96% ~~or 99%~~ or 97% or 98% or 99% identical with one of the sequences selected from the group consisting of SEQ ID NO:12 to SEQ ID NO:30.

Please replace the paragraph at page 40, line 33, to page 41, line 2, with the following:

Finally, the invention also relates to diagnostic reagents as kits which, based on the above-described methods make possible the detection of HBV variant-specific antigen (HBsAg) or antibodies directed against it (anti-HBs), either as single determinations or ~~can be~~ combined with each other or with other known HBV antigens or antibodies which react specifically therewith or else with quite different analytes.

Please replace the text at page 44, line 30 to page 45, line 2, with the following:

PCR 1 rxn

Primer 1 (10 µM)	1 µl	
Primer 2 (10 µM)	1 µl	
10-fold conc. buffer		
(incl. 15 µM $MgCl_2$)	5 µl	
dNTP mixture (10 µM)	1 µl	
dist. Water	36.75 µl	
Ampli Taq (5 U/ µl)	0.25 µl	
(per tube)	45 µl	total volume
plus	5 µl	of isolated DNA
	50 µl	reaction volume

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1.-23. (Canceled)

24. (New) An oligopeptide or polypeptide comprising an amino acid sequence with at least 78% identity to SEQ ID NO:14.

25. (New) The oligopeptide or polypeptide of claim 24, which reacts with sera from individuals who are infected with the hepatitis B variant HDB 11.

26. (New) An oligopeptide or polypeptide, comprising an amino acid sequence in which from 0 to 10 amino acids are substituted, deleted or inserted as compared with SEQ ID NO:14.

27. (New) The oligopeptide or polypeptide of claim 26, which reacts with sera from individuals who are infected with the hepatitis B variant HDB 11.

28. (New) An oligopeptide or polypeptide comprising at least 5 consecutive amino acids from SEQ ID NO:12, and comprising at least one of the amino acid positions 54, 61, 72, 73, 74, 75, 76, 78, 85, 87, and 94 of SEQ ID NO:12.

29. (New) The oligopeptide or polypeptide of claim 28, comprising an amino acid sequence chosen from the amino acid sequences of SEQ ID NO:12 to SEQ ID NO:30.

30. (New) The oligopeptide or polypeptide of claim 28, which reacts with sera from individuals who are infected with the hepatitis B variant HDB 11.

31. (New) A oligopeptide or polypeptide, comprising a length of at least 5 amino acids, and comprising at least one of the amino acid positions 96, 103, 114, 115, 116, 117, 118, 120, 127, 129, and 136 of SEQ ID NO:12, wherein position 96 is alanine, position 103 is isoleucine, position 114 is alanine, position 115 is isoleucine, position 116 is asparagine, position 117 is asparagine, position 118 is arginine, position 120 is glutamine, position 127 is threonine, position 129 is histidine, and position 136 is tyrosine.

32. (New) The oligopeptide or polypeptide of claim 31, which reacts with sera from individuals who are infected with the hepatitis B variant HDB 11.

33. (New) A composition comprising at least one immunogenic molecule comprising one or more oligopeptides or polypeptides as claimed in one of claims 24 to 32, and optionally further comprising one or more H8V immunogens.

34. (New) A method of preparing the oligopeptide or polypeptide as claimed in one of claims 24, 26, 28, 29, or 31, which comprises culturing a cell and expressing the oligopeptide or polypeptide in said cell.

35. (New) The method as claimed in claim 34, wherein the oligopeptide or polypeptide is isolated from the cells and separated from other oligopeptides or polypeptides.

36. (New) An antibody which binds to the oligopeptide or polypeptide as claimed in one of claims 24, 26, 28, 29, or 31.

37. (New) The antibody as claimed in claim 36, which binds to an oligopeptide or polypeptide comprising a sequence with at least 78% identity to SEQ ID NO:14 with higher affinity than to HBs antigens belonging to genotype D, subtype ayw2, of hepatitis B virus.

38. (New) The antibody as claimed in claim 36, which does not bind to HBs antigens belonging to genotype D, subtype ayw2, of hepatitis B virus.

39. (New) An antiidiotypic antibody which represents an amino acid sequence as defined in one of claims 24, 26, 28, 29, or 31.

40. (New) A kit for detecting hepatitis B viruses, comprising at least one of

(i) an oligopeptide or polypeptide as claimed in one

of claims 24, 26, 28, 29, or 31;

(ii) an oligonucleotide or polynucleotide encoding said oligopeptide or polypeptide; and

(iii) an antibody which recognizes said oligopeptide or polypeptide; and

41. (New) A method for detecting a hepatitis B antigen, comprising

(a) incubating a sample with the antibody of claim 36 under conditions which allow the formation of antigen-antibody complexes; and

(b) detecting antigen-antibody complexes.

42. (New) A method of identifying antibodies directed against a hepatitis B antigen, comprising

(a) incubating a sample with an oligopeptide or polypeptide as claimed in one of claims 24, 26, 28, 29, or 31 under conditions which allow the formation of antigen-antibody complexes; and

(b) detecting antibody-antigen complexes comprising said oligopeptide or polypeptide.

REMARKS

Applicant amends the specification to insert reference to the priority application at the front of the text, and also to correct a few typographical errors. Applicant also cancels original claims 1-23 without prejudice or disclaimer and inserts new claims 24-42. Claims 24-42 re-introduce subject matter of the original claims in U.S. Patent and Trademark Office format.

The amendments are supported by the application as a whole, including the original claims, figures, and sequence listing, and do not introduce new matter. Applicant respectfully requests their entry.

If there is any fee due in connection with the filing of this Preliminary Amendment, please charge the fee to Deposit Account No. 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, L.L.P.

Dated: December 20, 2005

By: _____
Elizabeth A. Doherty
Reg. No. 50,894

Abb.6 Vergleich der Amin[redacted]e-Sequenzen der a-Determinante ([redacted]0 bis aa 180) der neuen Variante[redacted]11 (untere Reihe) mit dem Wildtyp [redacted]ayw2 (obere Reihe)

													aa-Sequenz Wildtyp ayw2 :					Y		100
													aa-Sequenz Variante HDB 11 :					Y		
101	Q	G	M	L	P	V	C	P	L	I	P	G	S	S	T	T	S	T	G	P	120
	Q	G	I	L	P	V	C	P	L	I	P	G	S	A	I	N	N	R	G	Q	
121	C	R	T	C	T	T	P	A	Q	G	T	S	M	Y	P	S	C	C	C	T	140
	C	K(R)	T	C	T	T	T	A	H	G	T	S	M	Y	P	Y	C	C	C	T	
141	K	P	S	D	G	N	C	T	C	I	P	I	P	S	S	W	A	F	G	K	160
	K	P	S	D	G	N	C	T	C	I	P	I	P	S	S	W	A	F	G	K	
161	F	L	W	E	W	A	S	A	R	F	S	W	L	S	L	L	V	P	F	V	180
	F	L	W	E	W	A	S	A	R	F	S	W	L	S	L	L	V	P	F	V	

Die folgenden aa sind gegenüber dem Wildtyp HBV ayw2 bei der HDB 11-Variante substituiert (x):
V 96 (A) (nicht in der Region der a-Determinante);
M 103 (I), S 114 (A), T 115 (I), T 116 (N), S 117 (N), T 118 (R), P 120 (Q), P 127 (T), Q 129 (H) und S 136 (Y) (alle in der Region der a-Determinante)

Abb.6 **Vergleich der Aminosäure-Sequenzen der a-Determinante (aa 100 bis aa 180) der neuen Variante HDB 11 (untere Reihe) mit dem Wildtyp HBV ayw2 (obere Reihe)**

	aa-Sequenz Wildtyp ayw2 :																		Y	**100**
	aa-Sequenz Variante HDB 11 :																		Y	
101	Q	G	M	L	P	V	C	P	L	I	P	G	S	S	T	T	S	T	G	P	**120**
	Q	G	**I**	L	P	V	C	P	L	I	P	G	S	**A**	**I**	**N**	**N**	**R**	G	**Q**	
121	C	R	T	C	T	T	P	A	Q	G	T	S	M	Y	P	S	C	C	C	T	**140**
	C	K(R)	T	C	T	T	**T**	A	**H**	G	T	S	M	Y	P	**Y**	C	C	C	T	
141	K	P	S	D	G	N	C	T	C	I	P	I	P	S	S	W	A	F	G	K	**160**
	K	P	S	D	G	N	C	T	C	I	P	I	P	S	S	W	A	F	G	K	
161	F	L	W	E	W	A	S	A	R	F	S	W	L	S	L	L	V	P	F	V	**180**
	F	L	W	E	W	A	S	A	R	F	S	W	L	S	L	L	V	P	F	V	

Die folgenden aa sind gegenüber dem Wildtyp HBV ayw2 bei der HDB 11-Variante substituiert (x):
V 96 (A) (nicht in der Region der a-Determinante),
M 103 (I), S 114 (A), T 115 (I), T 116 (N), S 117 (N), T 118 (R), P 120 (Q), P 127 (T), Q 129 (H) und S 136 (Y) (alle in der Region der a-Determinante)